CHAPTER - III

METHOD AND PROCEDURE

The aim of the present investigation was to examine the effects of the leadership behaviour and self concept of the principals on organizational climate of the primary and secondary schools of Kerman city (Iran).

The present chapter discusses methodology, design of the study, the sample, tools and statistical techniques used.

3.1 DESIGN OF THE STUDY:

In this study factorial design was used as the purpose of the study was to examine the effects of the leadership behaviour and self concept of the principals on organizational climate of the primary and secondary schools. A study designed to investigate simultaneously the effects of two or more independent variables is termed as a factorial study. According to Tuckman (1972), within the factorial design, it is possible to assess the effect of each independent variable separately as well as their joint and simultaneous effect. In an endeavour to improve the logical foundations of a scientific investigation, factorial design has proved one of the most fruitful developments. Factorial technique permits the researcher to evaluate the
combined effect of two or more independent variables when used simultaneously. Information obtained from factorial investigation is more complete than that obtained from a series of single factor investigation, in the sense that it permits the evaluation of interaction effects in addition to the main effects of factors. An interaction effect is an effect attributable to the combination of variables above and beyond that which can be predicted from the variable considered singly. The three main reasons for including levels of several factors in one investigation are:

i) To obtain information of the average effect of all the factors economically, from a single investigation of moderate size.

ii) To broaden the basis of inference on one factor by testing it under varied conditions of the others.

iii) To assess the manner in which effects of factors interact with one another. These are not entirely independent but the emphasis varies with the subject of investigation.
"Independent variable" according to Tuckman (1972) "is that factor which is measured, manipulated, or selected by the investigator to determine its relationship with an observed phenomenon". An independent variable used in a study may be either a treatment variable or a classification variable. According to Ferguson (1971), "a treatment variable involves a modification in the experiment subjects, a modification which is controlled by the experimenter". The subjects may, however, be classified in a characteristic way which is prior to and is quite apart from the experiment and is also not due to the result of manipulation of the researcher. Such a variable is a classification variable. In this case, the investigator exercises indirect control since he makes use of a priori-categorization for making groups. According to Fox (1963), the criterion by which a particular condition or treatment is evaluated is called a dependent variable. According to Tuckman (1972), the dependent variable is that factor which is observed and measured to determine the effect of the independent variable.

Accordingly, a 2x2 factorial design was employed. The factorial design was used as it permits to evaluate the combined effect of two or more experimental variables when used simultaneously. Information obtained from factorial design experiment is more complete than that obtained from a
series of single factor experiments in the sense that evaluation of interaction effects can be made. Also, the population to which inference can be made is more inclusive than the corresponding population for a single factor experiment (Winer, 1971).

In the present study the independent variables are leadership behaviour and self concept of principals and organizational climate of schools, is a dependent variable. The schematic lay out of the design has been presented in the Figure 3.1.

3.1.1 DIMENSIONS OF THE DESIGN:

The dimensions of a factorial design refer to the number of factors and the number of levels within each factor. The present study was carried out in accordance with the requirements of 2x2 factorial design. Independent factors of the present study, include leadership behaviour and self concept of the principals; and the dependent factor comprised the organizational climate of the schools. All the independent factors were varied at two levels end each, high and low. Independent variables were investigated both in terms of variables taken singly as well as taken together in different combinations to determine their interaction effects.
From the lay-out given in Fig. 3.1, it is obvious that factors of leadership behaviour and self concept are varied at two levels each. Factor of leadership behaviour is designated as L, and its two levels are L_1 and L_2 corresponding to high leadership behaviour and low leadership behaviour groups, respectively. The second factor is self concept and is designated as S and has two levels viz. S_1 and S_2, representing high and low self concept groups, respectively.

A treatment was obtained by selecting one level from each of two factors. The total number of different combinations came out to be 2x2 = 4 is shown as under:

(i) L_1 S_1 (High Leadership Behaviour & High Self Concept)
(ii) L_1 S_2 (High Leadership Behaviour & Low Self Concept)
(iii) L_2 S_1 (Low Leadership Behaviour & High Self Concept)
(iv) L_2 S_2 (Low Leadership Behaviour & Low Self Concept)

The second part of the design consisted of intercorrelation among the three variables of leadership behaviour, self concept and the organizational climate in the total sample. The correlation matrix was designed to check the extent to which the three variables were correlated. Under this design, correlation was studied
Figure 3.1 LAYOUT OF THE DESIGN
(2x2 FACTORIAL DESIGN)
between different combinations taking two variables at each time.

3.2 SAMPLE:

Sampling occupies an important part of the research. The adequacy of a sample depends upon our knowledge of the population as well as the method used in drawing the sample.

According to Peaker (1985) humankind has acquired enough knowledge of the world to invest in a considerable technology that often produces dramatic effects. All this knowledge has been acquired from samples, since only minute portions of space and time have ever been scrutinized.

This suggests that nature tends to offer fair samples for inspection, and that the problem of fairness cannot, therefore, be very important. But this is altogether too easy. It ignores the immense amount of experience that has gone into the recognition of natural kinds and invention of manufacturing processes. Furthermore, it ignores the fact that in classical physics the only concern is with averages reckoned over enormous numbers of unit particles. But in educational research concern is with the unit - the individual boy or girl, or man or woman - and not merely with the aggregate or population. Fairness in the sample can be secured by giving
every member of the population a specifiable chance of appearing in it. The accuracy of representation depends upon the size of the sample, and the size given not by the number of the members in the sample, but by the number of independent selections that have been made.

It may be noted (Peaker, 1985) that sampling errors are not mistakes; they are fluctuations or wanderings, as in "knight errant" or "we have erred and strayed like lost sheep". They represent the average variation between one sample and another when same method of drawing the sample is used in each case. The point about probability sampling, as distinct from other parts of sampling, is that these errors can be estimated. In sampling the key is "probability". In sampling schools, parents, teachers, and students "probability" is used in the same restricted sense as in games of chance. Each member of a specified population is given a specifiable, non zero, chance of being drawn in the sample, and other chances, such as that of a particular error of estimate exceeding a certain size are calculated the rules of combinatorial algebra, or by resorting to approximations, when the algebra becomes too complicated to be manageable. Thus, to work on a sample saves time on labour and money.

In the statistical investigation, population is arbitrarily defined by its unique properties. In the
present study, the sample consisted of almost all the principals of the primary and secondary schools of Kerman city. Only a few principals who returned incomplete questionnaires were not included in the study. So the total number of principals included in the study was 150 principals of the primary and secondary schools of Kerman city.

The two levels of educational institutes, the primary and secondary schools, were the target for the present investigation. The tender age at which the school-going children are, is highly vulnerable to fluctuations and changes in the organizational climate. The basic infrastructure of their personality takes its roots at this stage. So, the investigator selected these two levels of institutions as the most appropriate ones for his study.

Kelley's (1939) criterion for taking top 27% and bottom 27% for dividing the sample pool into two levels each of high and low was used.

3.3 TOOLS AND THEIR DESCRIPTION:

In every field and in every type of study, factual material and untapped data is essential. The researcher can obtain this from various sources direct. For the collection of data it is quite necessary to adopt a systematic procedure. For every type of research there is a need of
certain instruments to explore new fields. The instruments employed for the collection of data are called tools. For a successful research, selection of proper tools is very important.

The following tools have been used in the investigation:

(1) Organizational Climate Description Questionnaire, OCDQ (by Halpin and Croft, 1963),

(2) Leadership Behaviour Description Questionnaire, LBDQ (by Personnel Research Board, Ohio State University, 1957) and

(3) Personality Word List (Rating), PWL, for the measurement of self concept (by Pratibha Deo, 1971)

All these questionnaires have been translated into Persian before distributing them to the subjects.

3.3.1 ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE (OCDQ):

So far the most popularly and widely used technique for the assessment of the organizational climate of schools has been the Organizational Climate Description
Questionnaire (OCDQ). Partly because of the clarity with which Halpin (1963) described his concept of organizational climate and partly because of its relative simplicity with which the OCDQ assessment technique can be used in the practical school situation. This tool has been employed by various researchers who studied the organizational climate of the schools.

For instance, in a school if the principal is socially distant and emphasizes the "nomothetic" aspect of his role - if he "goes by the book" can we expect to find out a distinctive 'personality' or organizational climate in his school? On the contrary, if a principal is highly ideographic, if he is more concerned with the personal dimension of organizational life, can it be predicted that the organizational climate in his school will be distinctively different from that of the nomothetic principal? Such type of speculations reveal a tendency to view the principal as a leader who has significant impact on the shaping and maintaining of the organizational climate in his schools. As a matter of fact, the concepts underlying the OCDQ originate in Halpin's earlier research work on leadership, first among Air Force Crews and later with the Ohio State Personnel Board where Halpin was involved in the development of the Leader Behaviour Description Questionnaire.
The rationale underlying the OCDQ assumes two (2) things: First, that something actually exists which can be called organizational climate and secondly, it is assumed that organizational climate is closely related to the perceived behaviours of teachers and principals.

The very term perceived behaviour is 'important'. Supposing that teachers are asked questions which are designed to elicit information about the school's principal such as "How considerate is he?" "How energetic and effective is he?" "How approachable and how genuine is he in his manner?" One may object that the principal may actually evidence behaviour quite different from the behaviour which the teacher perceives. For instance, the principal may be attempting to emphasize consideration in his role behaviour because he associated consideration with leader behaviour and he also wishes to be a leader. However, if a teacher does not 'see' the behaviour as evidencing consideration, then, to him, it is not consideration. Let's consider the school principal who thinks of himself as gentle, easy going, and thoughtful, whereas teachers in private refer to him as old iron pants. In dealing with interpersonal relationships, which are bound up in organizational behaviour, we are confronted with the truism that much of behaviour is, like beauty lies in the eye of the beholder.
Working under a grant from the States Office of Education, Halpin and Croft (1963) carried out what they called exploratory inquiry. They began their work with the proposition that the organizational climate of a school can be construed as the organizational personality of a school. Being a pioneer study, Halpin and Croft felt that it was desirable to carve out an area of research from virtually uncharted territory and leave the rest of it to others to follow later. Due to this reason, first they concentrated on the impact of the behavior of teachers and the principals on the organizational climate of schools, leaving a host of other possible factors, like environment for others to examine. Secondly, they tried to develop an instrument which could be used for identification and description of organizational climate of elementary schools. Therefore, they constructed a test instrument called the Organizational Climate Description Questionnaire (OCDQ) which Halpin and Croft found useful for depicting the organizational climate of schools.

The OCDQ developed by Halpin and Croft is a Likert type questionnaire consisting of 64 simple statements. The OCDQ is of intrinsic interest to the school and the findings from it can be used for purposes for school self evaluation. The eight dimensions of the organizational climate identified by factor analysis in the Halpin's study were
'Disengagement', 'Hindrance', 'Esprit', 'Intimacy', 'Aloofness', 'Production emphasis', 'Thrust', 'Considerations', the details of which are follows:

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>NO. OF ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Disengagement</td>
<td>10</td>
</tr>
<tr>
<td>(ii) Hindrance</td>
<td>6</td>
</tr>
<tr>
<td>(iii) Esprit</td>
<td>10</td>
</tr>
<tr>
<td>(iv) Intimacy</td>
<td>7</td>
</tr>
<tr>
<td>(v) Aloofness</td>
<td>9</td>
</tr>
<tr>
<td>(vi) Production Emphasis</td>
<td>7</td>
</tr>
<tr>
<td>(vii) Thrust</td>
<td>9</td>
</tr>
<tr>
<td>(viii) Consideration</td>
<td>6</td>
</tr>
</tbody>
</table>

These eight dimensions were discussed in Chapter I (Introduction and Background).

Organizational Climate Description Questionnaire (OCDQ) has been commonly used as stated due to the simplicity and ease to administer. A copy of Organizational Climate Description Questionnaire (OCDQ) is found in the Appendix 'A'.

3.3.1.1. RELIABILITY AND VALIDITY:

Halpin worked out the reliability and validity of all the dimensions of Organizational Climate Description
Questionnaire (OCDQ) by various methods and found them to be highly reliable and valid.

3.3.1.2. **SCORING PROCEDURE:**

All the principals were asked to indicate their responses to each of the sixty-four Likert-type items on a four-point scale as follows:

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

The four categories of responses can be scored by simply assigning to the respective category and successive integers. When originally scored by Halpin and Croft, for reason of convenience the categories were assigned the integers 6, 7, 8 and 9. In the present, the responses are scored as 1, 2, 3 and 4, respectively. Then we moved from item level to the subtest level.

3.3.2. **LEADERSHIP BEHAVIOUR DESCRIPTION QUESTIONNAIRE (LBDQ):**

Leadership behaviour was measured through an adoption of the Leadership Behaviour Description Questionnaire (LBDQ). It was developed by Personnel Research Board at the Ohio State University (1957) and has been used to measure the leadership behaviour of the
principals. This is the most popular and widely used technique for measuring the leadership behaviour. This technique has been used repeatedly by researchers to assess the leader behaviour of leaders.

The original form of the questionnaire constructed by Hemphill and Coons and Halpin and Winer (1952) identified 'Initiating Structure' and 'Consideration' as two fundamental dimensions of leader behaviour.

The Leadership Behaviour Description Questionnaire (LBDQ) consists of thirty short descriptive statements which measure the two dimensions of leadership behaviour, that is, Initiating Structure and Consideration. Each of the keys of the dimensions contains fifteen items. The members of leader's group, indicate the frequency with which he engages in each form of behaviour by checking one of five adverbs: Always, Often, Occasionally, Seldom, or Never. A copy of Leadership Behaviour Description Questionnaire (LBDQ) is found in the appendix 'B'.

3.3.2.1 RELIABILITY AND VALIDITY:

In Leadership Behaviour Description Questionnaire (LBDQ), the estimated reliabilities of the two keys are 0.93 and 0.86, respectively, by tests and retests method.

The validity of all the dimensions of Leadership
Behaviour Description Questionnaire (LBDQ), has been found to be highly valid, by various methods.

3.3.2.2 **SCORING PROCEDURE:**

In Leadership Behaviour Description Questionnaire (LBDQ), each key of dimensions, i.e., Initiating Structure and Consideration, contains fifteen items. Each item is scored on a scale from four to zero, the scale from 'Always' to 'Never'. Certain items are scored negatively i.e., the scoring is reversed and then subtracting the tabulated total negative score from total positive score.

Consequently, the possible theoretical range of scores on each dimension is from zero to sixty.

3.3.3 **PERSONALITY WORD LIST (Rating), PWL, FOR THE MEASUREMENT OF SELF CONCEPT:**

To measure the self concept of principals, Pratibha Deo's (1971) Personality Word List (PWL) was used. It measures ideal self, social self, real self, and perceived self. But in this study, it measures how the principals perceive themselves. This personality Word List (PWL) is an outcome of a series of attempts to evolve a suitable word list. Originally it consisted of 210 adjectives in all. It was first prepared in 1963 and then revised in 1971. The revised Personality Word List (PWL) contains 90 words of every day use. Out of the 90
adjectives, it has 56 positive and 34 negative traits in all. It is a self rating rather than a check list. Further, it is five point scale, the points ranging from "very much like this" to "not at all like this". This will help the investigator to know why the principals perceive themselves. Adjectives are printed in column of two on each side of a card. Instructions are given on the other side of the card. A copy of Personality Word List (PWL) is found in the appendix 'C'.

3.3.3.1 RELIABILITY AND VALIDITY:

Reliability of Deo's Personality Word List (PWL) was determined in terms of scores on the test over certain specified length of time and consistency of scores of subjects was found out between various administrations of the test. Test retest co-efficient of 0.86 was obtained for the time interval of one month. Thus, this study establishes a high degree of consistency in the self-perception of subjects on the list over certain specified period of time.

The validity was determined by Singh (1965) on various traits in the list, which ranged from 0.40 to 0.65.

The overall validity co-efficient of scores on Deo's Personality Word List (PWL) and self concept of Deo and Walia (1965) was 0.56.
3.3.3.2 SCORING PROCEDURE:

Scoring was done with the help of two keys, one for the positive words and one for the negative words. The scores irrespective of positive and negative traits ranging from four to zero, starting from "very much like this" point and ending at "not at all like this". Final self concept score was obtained by subtracting the tabulated total negative score from the total positive score.

The Personality Word List (PWL) is a quick measuring and quick scoring device.

3.4 COLLECTION OF DATA:

The developed and translated draft of questionnaires (total three questionnaires) was circulated and administered on the sample. Directions were read to the school principals by the investigator and if any doubts or questions were raised, they were answered. The questionnaires were administered to the principals only because most of the teachers refused to accept them.

Since all the schools were located in the urban area, it was easier to collect data personally instead of doing it by mail. Therefore, it was decided that to ensure adequate returns, the investigator would visit the schools personally and seek cooperation of principals.
The investigator had got the experience of difficulties met in collecting the data and was quite cautious about the problem of poor responses from the very beginning and hence he took all possible steps to get maximum responses. The investigator was accorded permission by the Ministry of Cultural and Higher Education and other respective authorities in Iran to collect the required data in different schools of Kerman City.

Ultimately the investigator was able to obtain the data from 150 principals which was quite satisfactory. The data were then scored, computed, and analysed.

3.5 STATISTICAL TECHNIQUES:

The statistical techniques selected to analyse the data in the present study were both descriptive and statistical. The statistical computations were done through the Regional Computer Centre, Panjab University, Chandigarh, U.T., India.

The following statistical techniques were used for testing the hypotheses:

(i) Tabulation and frequency distribution.

(ii) Measures of central tendency and standard deviation.

(iii) Calculation of standard error of mean to find out the fluctuations of flexibility of each mean.
(iv) Calculation of percentile, skewness and kurtosis.

(v) Analysis of variance.

(vi) Intercorrelations among the variables for the total sample.

(vii) Calculation of t-ratios where F-ratios were significant.

3.5.1 ANALYSIS OF VARIANCE

Analysis of variance is one of the most powerful tools of statistical analysis. It enables one to analyse the total variation of one's data into components which may be attributed to various "sources" or "causes" of variation. According to Ferguson (1971), "the analysis of variance is a technique for dividing the variation observed in the data into different parts, each part assignable to a known source, cause, or factor. By this technique the relative magnitude of variation resulting from different sources may be assessed; and it may also be ascertained whether a particular part of the variation is greater than expectation under the null hypothesis". It is mostly used for the important and oft-encountered problem of determining the significance of the differences among several means. It is a composite test that gives an overall idea about the significance of difference between means. The main characteristic of this technique is that variance can be simultaneously analysed into components attributable to
different factors. It can also be used to find out the interaction effects of the factors under study.

In the analysis of data, the total sum of squares is broken up into between subjects and within subjects-components.

Analysis of variance gives global picture about the nature of variance. A significant 'F' indicates that there are non-chance variations among groups. The F-ratio cannot point out which one or how many means are significantly different.

In the present study, the effect of two levels of leadership behaviour (High and Low) and two levels of self concept (High and Low) is to be estimated. So a (2x2) factorial design of having four groups was followed. The analysis is given in Chapter IV.

3.5.2 LEVELS OF SIGNIFICANCE.

The customary levels of significance at 0.05 and 0.01 levels were adopted for testing the hypotheses of the study. A significant result at .05 level means that the chances are 5 out of 100 when the difference between means can result due to chance, if the treatment applied is having an effect. In case of the 0.01 level, it is only 1 out of 100 that the difference between means can be due to chance.

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After collection of data, the task of analysis and interpretation of them was taken. The main effects and the interaction effects of the factors of leadership behaviour and self-concept are analysed and interpreted therein.